NC/QC/YD/2020-21/W4-RO-C1 Date: 22-02-2021

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	168 min	Shall not be less than 30 min
2	Final setting time	279 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	1.94 %	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.06 mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.91 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.

NEWZEN CONSULTANT BANGALORE

NC/QC/YD/2020-21/W4-RO-PCC1 Date: 22-02-2021

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	60.15	0 -20	30- 70
10mm	26.70	0 -5	10- 35
4.75mm	3.40	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.20	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	84.65	60-95	75-100	85-100	
01.18	70.10	30-70	55-90	75-100	
600.mic	36.95	15-34	35-59	60-79	
300.mic	18.20	5-20	8-30	12-40	
150.mic	6.55	0-10	0-10	0-10	

The result of the materials tested meets the standards and hence can be used for the work.

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NEWZEN CONSULTANTS BANGALORE

NC/QC/YD/2020-21/W4-RO-FA1

Date: 23-02-2021

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}

Ref.: Material testing/QC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	97.60	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	82.95	60-95	75-100	85-100	
01.18	74.25	30-70	55-90	75-100	
600. mic	41.40	15.34	35-59	60-79	
300.mic	17.35	5-20	8-30	12-40	
150.mic	8.10	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	18.06 %	-----
2	Silt Content	----	0.60%	Not more than 8%
3	Specific Gravity	----	2.61	-------

The result of the materials tested meets the standards and hence can be used for the work.

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NEWZEN CONSULTANT BANGALORE

NC/QC/YD/2020-21/W4-RO-CA1 Date: 23-02-2021

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	98.05	85-100	90 - 100
10 mm	52.60	0 - 20	25 - 55
4.75 mm	3.20	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS 383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	26.13 %	Not to exceed 25 %
2.	Crushing value	28.49%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

The result of the materials tested meets the standards and hence can be used for the work.

NEWZEN CONSULTANT BANGALORE

NC/QC/YD/2020-21/W4-RO-CB1

Date: 04-03-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}

Ref.: Material testing/QC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	25-02-21	04-03-21	07	22500	370	16.44	**16.07**
	002	"	"	"	"	355	15.78	
	003	"	"	"	"	360	16.00	

The result of the materials tested meets the standards and hence can be used for the work.

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NEWZEN CONSULTANTS BANGALORE

NC/QC/YD/2020-21/W4-RO-2A

Date: 26-03-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}

Ref.: Material testing/QC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	26-02-21	26-03-21	28	22500	510	22.67	22.37
	002	"	"	"	"	495	22.00	
	003	"	"	"	"	505	22.44	

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/W4-RO-W1 **Date: 17-03-2021**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Providing Pipelines to RO Plants and Maintenance of Existing Borewells in ward no:04 Yelahanka Satellite town sub division.}
Ref.: Material testing/QC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Satellite Town Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri G. Venkategowda, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	95.30	95-100
26.50	---	-
22.40	69.10	60-80
11.20	43.75	40-60
4.75	30.90	25-40
2.36	22.35	15-30
0.600	11.60	8-22
0.075	3.45	0-5

The result of the materials tested meets the standards and hence can be used for the work.

Date: 17-03-2021

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**26.90 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**27.20 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.

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